

WHAT IS CLAIMED IS:

1. In positive coefficient temperature device a laminar polymeric compound comprised of a semi-crystalline polymer, a plasticizer, and conductive particles.

2. The laminar polymeric compound of claim 1 wherein the plasticizer is approximately 10 percent of the polymeric compound.

3. The laminar polymeric compound of claim 1 wherein the semi-crystalline polymer is an ethylene, the conductive particles are carbon black, and the plasticizer is a micronized polyester wax.

4. The laminar polymeric compound of claim 1 wherein the conductive particles are comprised of two different carbon blacks and the semi-crystalline polymer is a low density polyethylene.

5. A positive coefficient device adapted for use in circuit protection, the device comprising:  
a first laminar foil;  
a second laminar foil;  
a polymeric compound between the first laminar foil and the second laminar foil, the polymeric compound comprising a polymer, a plasticizer, and conductive particles.

6. The positive coefficient device of claim 5 wherein the polymer comprises a semi-crystalline polymer.

7. The positive coefficient device of claim 5 wherein the plasticizer comprises approximately ten percent of the polymeric compound and the conductive particles comprises two different carbon blacks.

8. The positive coefficient device of claim 5 wherein the device has a switching temperature of approximate 70 degree Celsius.

1 40226/DMC/B553

9. A method of forming a low switching temperature polymeric positive temperature coefficient device suitable for circuit protection use, the method comprising:

5 compounding semi-crystalline polymer, plasticizer, and carbon black to form a polymeric compound;

pressing the polymeric compound between nodular foil; and  
crosslinking the polymeric compound.

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